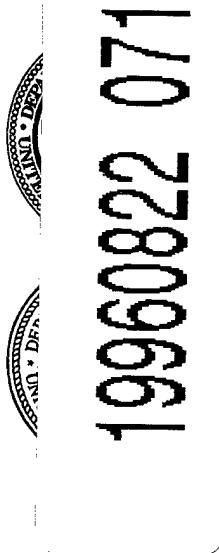




AFCTN Test Report 94-092

AFCTB-ID
94-057



TMSS Parsing Test

Equipment Organizational Maintenance Manual Set

MIL-M-83495A Schematic Diagram DTD

MAXIMA Corporation

DISA Contract #DCA100-93-D-0065

Quick Short Test Report

20 May 1994



Prepared for
Electronic Systems Center
Air Force CALS Program Office
HQ ESC/AV-2
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20 May 1994

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Air Force CALS Test Bed

Notification of Test Results

20 May 1994

This notice documents the results of an Air Force CALS Test Bed (AFCTB) Quick Short Test Report (QSTR) evaluation of data submitted by:

MAXIMA Corporation

Identified as follows:

Title:	Equip. Organizational Maint. Manual Set MIL-M-83495A Schematic Diagram DTD Parsing Test
Program:	DISA
Program Office:	DISA
Contract No.:	DCA100-93-D-0065
QSTR No.:	AFCTB-ID 94-057

Received on the following media: **3.5" Diskette**

The results of the QSTR evaluation are as follows:

MIL-STD-1840A Media Format:	N/A
MIL-D-28000A IGES:	N/A
MIL-M-28001B SGML:	Pass
MIL-R-28002A Raster:	N/A
MIL-D-28003 CGM:	N/A

Formal results with associated disclaimer are documented and available from the AFCTB.

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1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. Participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of this informal test is to analyze Air Force Document Type Definitions (DTDs) for Standard Generalized Markup Language (SGML) syntax, using several commercial and public domain SGML parsers, prior to placing them in the Defense Information Systems Agency (DISA) Asset Source for Software Engineering Technology (ASSET) repository.

2. Test Parameters

Test Plan: AFCTB 94-057

Date of Evaluation: 20 May 1994

Evaluator:
George Elwood
Air Force CALS Test Bed
DET 2 HQ ESC/AV-2P
4027 Colonel Glenn Hwy
Suite 300
Dayton OH 45431-1672

Data Originator:
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2372 Lakeview Drive
Beavercreek OH 45431
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Data Description: Technical Manual Test
1 DTD

Data Source System:
Text/SGML
SOFTWARE
Unknown

Evaluation Tools Used:

MIL-M-28001 (SGML)
PC 486/50
Exoterica XGMNormalizer v1.2e3.2
Exoterica Validator v2.2 exl
McAfee & McAdam Sema Mark-it v2.3
Public Domain sgmls v1.1

Standards Tested: MIL-M-28001B

3. 1840A Analysis

3.1 External Packaging

The 3.5" diskette was hand delivered to the Air Force CALS Test Bed (AFCTB) not enclosed in any container.

The files received by the AFCTB were not MIL-STD-1840A files. The files were not named per the standard conventions, as the stated purpose of the evaluation was the basic data structure.

4. SGML Analysis

The AFCTB has several parsers available for evaluating submitted DTD and text files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. These products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings unless specified in the report.

The goal was to configure the DTD under analysis as it would normally be used. However, for this analysis it was necessary to modify the DTD adding the "DOCTYPE doc [" statement to the start and the companion "]>" to the end of the DTD under evaluation, as stated in the comments of the DTD. If the parser did not support a formal file pointing to the location of the ISO character sets, this was added.

The DTD under evaluation, MIL-M-83495A, Appendix G, Schematic Diagram DTD, called for a companion MIL-M-38784C DTD. MIL-M-38784C, Amendment three DTD, delivered on the same diskette as the DTD to be evaluated, was used. This DTD was used without change except to insert the location of the ISO character set files.

<!-- MIL-M-83495A Schematic Diagram DTD -->

D495AG0.ORG --> D784CB0.A3

The following notes apply to the parsing analysis as indicated in the ensuing paragraphs.

- Note 1. Entity parameters defined more than once is a valid SGML construct. The warnings in this analysis do not indicate any problems.
- Note 2. The occurrences of warnings "references defined, but not used," appeared because portions of the called DTD, i.e., MIL-M38784C, were not used. They were not used because the entity definitions of the DTD under analysis altered the execution path in the called DTD. The warnings in this analysis do not indicate any problems.

4.1 Exoterica Validator

The DTD file was evaluated using the Exoterica Validator exl parser. The basic DTD was modified by placing the concrete syntax file and "<!DOCTYPE doc [" at the start, and the "]>" at the end. The parser reported 54 errors which related to the missing instance and are not considered error for this analysis.

The parser reported 27 total warnings of two types. The first type warning was a parameter entity declared more than once. See Note 1 above.

```
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 37,  
     used in "\xgml\9457.dtd", line 124:  
A parameter entity name has been declared more than once.  
The entity is "%shorttitleuse".  
<!ENTITY % shorttitleuse "IGNORE" >
```

The second type warning related to elements defined but not used in any content model. See Note 2 above.

```
<!-- **Warning** in "\xgml\9457.dtd", line 215:  
An element is not allowed in the document instance because it does not  
appear in any accessible content model or it is completely excluded.  
The element is "ADDRESS".
```

4.2 Exoterica XGML Normalizer

The DTD file was parsed using the Exoterica *XGMLNormalizer* parser. The concrete syntax and "<!DOCTYPE doc [" were added to the start, and "]>" to the end of the file. No errors or warnings were issued by this utility.

4.3 Public Domain sgmls

The DTD file was evaluated using the Public Domain *sgmls* parser version 1.1. The file was modified by adding the "<!DOCTYPE doc [" to the start, and "]>" to the end of the file as stated in the comments in the DTD. The D784CB0.A3 file was used as the point to file. Four warnings were reported by the parser, all of which were duplicate definitions. See Note 1 above.

```
sgmls: In file included at \ws\9457.dtd, line 52:  
Warning at i:\dtd\784c.dtd, line 37 in declaration parameter 4:  
Duplicate specification occurred for "%shorttitleuse"; duplicate  
ignored.
```

4.4 Sema Mark-it

The DTD file was evaluated using McAfee & McAdam's *Sema Mark-it* v2.3 parser. The file was modified by adding the concrete syntax and "<!DOCTYPE doc [" to the start, and "]>" to the end of the file. The base line D784CB0.A3 file was used.

5. Conclusions and Recommendations

The file D495AG0.ORG, MIL-M-83495A, Appendix G, conforms to the SGML syntax of ISO Standard 8879, as required by the CALS MIL-M-28001B specification.

The errors, warnings, and comments reported by the parsers used in this evaluation do not indicate any syntactical variances, nor indicate any problem that would invalidate the effective application of this DTD.

6. Appendix A - Detailed SGML Analysis

6.1 Exoterica Validator

```
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 37,
   used in "\xgml\9457.dtd", line 124:
A parameter entity name has been declared more than once.
The entity is "%shortitleuse".
<!ENTITY % shortitleuse "IGNORE" >
^~~~~~  

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 45,
   used in "\xgml\9457.dtd", line 124:
A parameter entity name has been declared more than once.
The entity is "%shortitle".
<!ENTITY % shortitle " " >
^~~~~~  

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 107,
   used in "\xgml\9457.dtd", line 124:
A parameter entity name has been declared more than once.
The entity is "%frnt".
<!ENTITY % frnt "(idinfo, warnpage?, chginssht?, lep, verstat?,
^~~~  

-->
<!-- **Warning** in "i:\dtd\784c.dtd" (entity "%m38784c"), line 165,
   used in "\xgml\9457.dtd", line 124:
A parameter entity name has been declared more than once.
The entity is "%bodyele".
<!ENTITY % bodyele "(chapter, chapter+, ddchapter?)" >
^~~~~~  

-->
<!-- **Warning** in "\xgml\9457.dtd", line 215:
An element is not allowed in the document instance because it does not
appear in any accessible content model or it is completely excluded.
The element is "ADDRESS".
```

<<<< PART OF MESSAGE TEXT REMOVED HERE >>>>

The element is "CHAPTER".
The element is "CHGINSSHT".
The element is "CHGLIST".
The element is "CHGREC".
The element is "DDCHAPTER".
The element is "DDDESC".
The element is "DDINDEX".

```
The element is "DDINTRO".  
The element is "DDLIST".  
The element is "DDSHEET".  
The element is "DOC".  
The element is "DOCPART".  
The element is "ILLUSLIST".  
The element is "INSERTPG".  
The element is "INTRO".  
The element is "PGNO".  
The element is "PREFACE".  
The element is "REMOVEPG".  
The element is "SECTION".  
The element is "SHORTTITLE".  
The element is "VOLUME".  
The element is "WARNPAGE".
```

<<<< ERRORS FROM THIS POINT ON RELATE TO NO DOCUMENT INSTANCE AND ARE NOT CONSIDERED
FOR THIS REPORT >>>>

```
<!-- **Error** in "\xgml\9457.dtd", line 216:  
The document instance must consist of at least one tag or data character.  
The following element can start: "DOCSD".
```

-->

<<<< PART OF LOG FILE REMOVED HERE >>>>

```
<!-- **Error** in "\xgml\9457.dtd", line 216:  
An end tag that has been declared inomissible ("--) must not be omitted.  
The element is "DOCSD".
```

-->

```
<!-- Capacity points/limits:  
TOTALCAP =114919/200000  
ENTCAP =12832/200000  
ENTCHCAP =11437/70000  
ELEMCP =5408/70000  
GRPCAP =31264/70000  
EXGRPCAP =768/70000  
EXNMCAP =1312/70000  
ATTCP =33664/200000  
ATTCHCAP =887/70000  
AVGRPCAP =17088/70000  
NOTCAP =96/70000  
NOTCHCAP =163/70000  
IDCAP =0/70000  
IDREFCAP =0/70000  
MAPCAP =0/70000  
LKSETCAP =0/70000  
LKNMCAP =0/70000
```

<!-- 54 errors and 27 warnings reported. -->

6.2 Exoterica XGMLNormalizer Parser

No reported errors or warnings.

6.3 Public Domain sgmls Log

```
sgmls: In file included at \ws\9457.dtd, line 52:  
    Warning at i:\dtd\784c.dtd, line 37 in declaration parameter 4:  
        Duplicate specification occurred for "%shorttitleuse"; duplicate ignored  
sgmls: In file included at \ws\9457.dtd, line 52:  
    Warning at i:\dtd\784c.dtd, line 45 in declaration parameter 4:  
        Duplicate specification occurred for "%shorttitle"; duplicate ignored  
sgmls: In file included at \ws\9457.dtd, line 52:  
    Warning at i:\dtd\784c.dtd, line 109 in declaration parameter 4:  
        Duplicate specification occurred for "%frnt"; duplicate ignored  
sgmls: In file included at \ws\9457.dtd, line 52:  
    Warning at i:\dtd\784c.dtd, line 165 in declaration parameter 4:  
        Duplicate specification occurred for "%bodyele"; duplicate ignored
```

6.4 Sema Mark-it Log

```
ATTCNT --100-- 48  
ATTSPLEN --960-- 0  
BSEQLEN --960-- 0  
DTAGLEN --16-- 0  
DTEMPLEN --16-- 0  
ENTLVL --16-- 2  
GRPCNT --32-- 22  
GRPGTCNT --96-- 27  
GRPLVL --16-- 5  
LITLEN --3048-- 730  
NAMELEN --32-- 13  
NORMSEP --2-- 0  
PILEN --240-- 0  
TAGLEN --960-- 0  
TAGLVL --24-- 0  
MSDLVL --24-- 2  
TOTALCAP --200000-- 122138  
ENTCAP --200000-- 16064  
ENTCHCAP --70000-- 10595  
ELEMCAP --70000-- 5408  
GRPCAP --70000-- 36064  
EXGRPCAP --70000-- 800
```

EXNMCAP --70000-- 1312
ATTCAP --200000-- 33664
ATTCHCAP --70000-- 887
AVGRPCAP --70000-- 17088
NOTCAP --70000-- 96
NOTCHCAP --70000-- 160
IDCAP --70000-- 0
IDREFCAP --70000-- 0
MAPCAP --70000-- 0
LKSETCAP --70000-- 0
LKNMCAP --70000-- 0